7-1 PURPOSE: This chapter provides the Aviation rules of engagement for both rotary wing and fixed wing aircraft participating in operations conducted at CMTC (EDR-137). This chapter is applicable to all units conducting aviation operations during CMTC rotations.

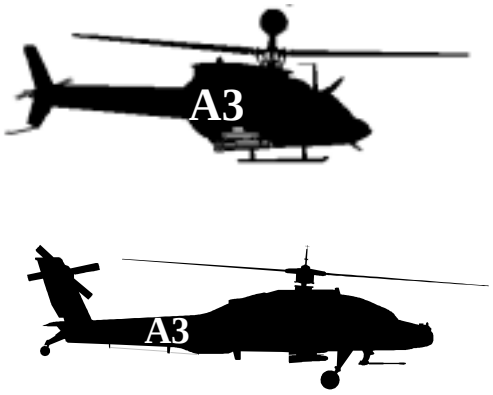
7-2 GENERAL: Army aviation is normally a division asset whose operations span the entire battlefield (Close, Deep, Rear) providing Combat, Combat Service, and Combat Service Support to the ground commander. Its use must be within the division commander's intent. Aviation missions, in support of ground forces within the division sector, must be coordinated and approved through the chain of command by DTOC.

a. O/Cs do not approve or disapprove aviation missions. FALCON O/Cs may assist the unit with coordinating non-scenario aviation missions (VIP) on a limited basis.

b. FALCON O/Cs have recall authority over all aircraft conducting operations at CMTC based on safety concerns or violations to the EXROE.

7-3 AIRCRAFT IDENTICICATION:

a. **AIRCRAFT MARKING:** The O/C will assign an alphanumeric designation, chalk number, to each rotational aircraft. (Normally corresponds to the Company and number of aircraft deployed.) All aircraft will be marked with the chalk number as shown in Figure 7-1. In addition the chalk number will be marked on the horizontal stabilator. These chalk numbers will remain the same throughout the rotation. Exceptions are aircraft carrying general officers, MEDEVAC aircraft performing real-world evacuation missions, and aircraft providing direct support to aviation O/Cs (Augmentee aircraft). Falcon O/Cs will provide chalk during the EXROE/Safety brief or as needed.



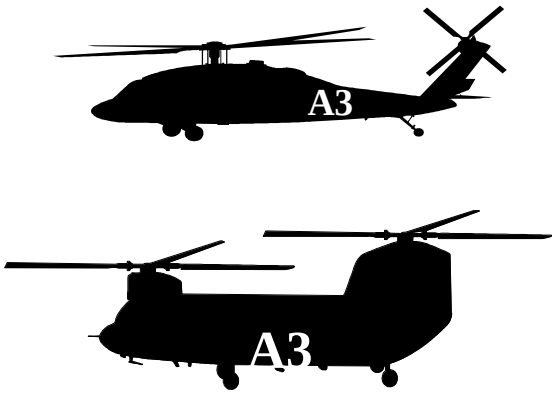


Figure 7-1. Aircraft Chalk Identification

b. **EDR 137:** All aircraft will operate in EDR 137 with an assigned mode 3A code. Units will obtain mode 3A codes for each aircraft from the Air Tasking Order (ATO) and these codes will remain the same throughout the rotation. The Falcon O/C Team and the TAF will maintain a consolidated list of rotational unit aircraft tail numbers, chalk numbers, and DCI codes.

c. **O/C AIRCRAFT:** Are UH-1H helicopters distinctively marked with yellow cockpit doors and yellow nose. On occasion, the OPFOR helicopters (desert camouflage UH-1H) will serve as O/C aircraft and will display a distinctive yellow panel in the cabin window. Augmentee O/C helicopters will display "O/C" chalked on the sides and horizontal stabilator. Regardless of the helicopter used, O/C helicopters will operate with position lights steady and generally fly over 500 feet above the ground.

d**. OPFOR AIRCRAFT:** Desert camouflaged VIS-MOD UH-1H helicopters replicate MI-24 HIND-F aircraft.

7-4 AVIATION MISSION PLANNING:

a. **INFORMATION TO O/Cs:** Units will provide FALCON O/Cs:

(1) Tail numbers of aircraft and bumper numbers of associated vehicles and ground support equipment.

(2) Aircraft manifests.

(3) Two copies of orders, overlays, communication cards and kneeboard packets.

b. **PCI REQUIREMENTS:** FALCON O/Cs will inspect aircraft MILES, weapons systems, cargo, crew, passengers and equipment prior to mission execution. Aircraft without functioning

MILES will not be allowed to enter the box (EDR-137).

c. **BRIEFINGS:** Rotational units must schedule a Redline/EXROE/Safety brief with the Falcon O/C Team prior to entering EDR 137.

d. **EXCEPTIONS TO RESTRICTIONS:** Units must obtain approval for weekend and after-hour flights outside of EDR-137 through their chain of command in accordance with AP/2. Requests in support of rotations must include one (1) UH-1 O/C aircraft per flight or company.

e. AIRCRAFT **COMMUNICATION REQUIREMENTS:** Units will only use authorized frequencies as assigned by CMTC S-6. (Aircraft, ground vehicles, man portable radios, etc) Airborne FM Frequency Hopping is not allowed at CMTC due to Host Nation Restrictions. Aircraft must establish radio communications with Falcon O/C prior to mission execution. If utilizing HAVEQUICK, as approved by 5th Signal using authorized FMT sets 1-3, units will be prepared to provide TOD. If HAVEQUICK communications cannot be established with the O/C, then single channel UHF communications will be maintained.

f. **IFF:** Use of IFF Mode IV fills must be prior coordinated with FALCON O/C team and CMTC prior to use.

g. **LOAD REPLICATION:** All ammunition, cargo, passengers and sling loads are treated as having real weights. Weight and balance records and fuel loads must correspond as appropriate. Aircraft configuration must correspond with the planned aircraft load and the equipment must be operational.

h. **SIMULATED REARMING:** When simulating rearming operations, the required equipment and specific number and type of personnel (e.g. 55B, 77F, 68X, 68J) required for the operation must be present. The minimum time for rearming aircraft is 20 minutes. OPFOR RW assets will also adhere to the 20 minute minimum rearming time, but are exempt from the equipment and personnel requirements.

i. **NVD OPERATIONS:** See Chapter 11, Safety, the CMTC HFCA SOP and the HAAF SOP.

j. **COMMAND AND CONTROL:** Air maneuver restrictions are in the Aviation Procedures Guide, OPORDs, overlays, FRAGOs, and orders that the CMTC issues to the unit. BLUFOR units must strictly adhere to these boundary route restrictions.

k. **OUT OF SECTOR FLIGHT:** aircraft flying out of the designated boundaries or flying in unauthorized areas will receive one warning. If corrective action is not taken or violation occurs again the aircraft will be assessed by the aviation O/C as being destroyed by fire from adjacent notional units.

l. **PERSONNEL:** Units will manifest one O/C per aircraft for all air movements. Once the soldiers depart the aircraft on the LZ they will be met by additional O/Cs based on the number of dismounted elements operating independently. No BLUFOR personnel will leave the LZ without an O/C moving with their element.

7-5 AVIATION MILES:

a. **REFERENCE:** Refer to Chapter 2, Maneuver for additional information.

b. **REQUIREMENTS:** All aircraft will be MILES/AGES II equipped. Exceptions are aircraft carrying general officers and MEDEVAC aircraft performing real-world evacuations. Aircraft experiencing MILES malfunctions should immediately contact the O/C. O/Cs will direct aircraft with malfunctioning MILES to designated check points/locations in the maneuver area to link up with the MILES contact team.

c. **MWLD:** All personnel to include contract maintenance personnel will wear MWLD. Exceptions are as follows:

(1) Personnel performing crew duties (flying) or performing maintenance on aircraft will temporarily remove their MWLD, Kevlar and LBE in order to reduce the risk of FOD and personal injury. (Generally inside the rotor disk.)

(2) Personnel performing refuel and rearm of aircraft will temporarily remove their MWLD in order to reduce the risk of personal injury or potential FOD damage to the aircraft.

d. The Senior Aviation O/C may authorize aircraft with inoperative MILES to participate in a multi ship lift. However, if any aircraft in the lift are engaged, the non-MILES aircraft, including the soldiers on board, will automatically be assessed as destroyed/casualties, and will follow the instructions of the Falcon primary O/C.

7-6 ARMY AIRSAPACE COMMAND AND CONTROL:

a. **GENERAL:** Army Airspace Command and Control (A^2C^2) consist of those actions that ensure the synchronized use of airspace and enhance the command and control of those forces using airspace. The A^2C^2 system includes those organizations, personnel, facilities, and procedures required to perform the airspace control function.

(1) **REFERENCES: CMTC A2C2 SOP,** CMTC HFCA SOP, Hohenfels Army Airfield SOP, and Aviation Procedures Guide (Redline Brief). The DTOC is the approval authority for use of EDR-137. The Commander of HAAF is the approval authority for the use of the CMTC HFCA.

(2) The maneuver brigade commander will manage the airspace over his area of responsibility through his staff and through liaison officers (LNOs) from the Air Force, Army, ADA, and Army aviation.

(3) **A2C2 PLAN:** The DIV G3 Air and/or BDE S3, in coordination with DTOC, will develop the A^2C^2 plan. NLT D+1, The Aviation BN LNO and/or BDE/BN S3 will provide copies of the Aviation BN plan (annex, execution matrix and overlays) to the DTOC and Falcon O/C Team. All scheduled CAS takes precedence over RW ACAs. BLUFOR RW ACAs take precedence over OPFOR RW ACAs.

(4) **ATO/ACO:** Division Air Element (DAE) will publish Air Tasking Order/Airspace Control Orders (ACO) to the BDE S3 Air. BDE A^2C^2 element will forward Airspace Control Requests for airspace control measures to DTOC. Aircraft will comply with all graphic control measures, to include brigade/task force boundaries, and airspace specifics outlined in the rotation Airspace Control Order (ACO) and Special Instructions (SPINS).

b. **COORDINATING ALTITUDE:** The airspace coordination altitude is 250ft AGL (in daylight) and 500 ft AGL (at night). Army aircraft will remain below 100ft AGL.

c. FLIGHT ROUTES: The flight route (ingress and egress) and landing zone (LZ) for aircraft must be within the OPFOR and Rotational Unit sector. Air insertion aircraft will be permitted to veer outside of the boundaries only for safety reasons. Non-emergency route changes must be approved by the DTOC. Lifts may go to separate LZs provided that the LZ has been coordinated through the DTOC 24 hours prior.

7-7 GROUND TO AIR ENGAGEMENTS (HELICOPTER):

a. **MILES ASSESSED BDA:** SAWE/MILES will determine the outcome of all engagements. The following are exceptions to this rule and will be controlled/adjudicated by O/C's:

(1) Indirect fire.

(2) TACAIR.

(3) NBC

b. **SBDA:** In the event of a MILES simulated BDA (SBDA) or O/C adjudicated SBDA, the aircraft will land at the nearest suitable landing area. The crew is permitted one "mayday" call. Crews are reminded to add the word "simulated" during this radio call. Crews and passengers must stay with the aircraft until met on the ground by an O/C. Crews will then activate their SBDA packets and MCCs or follow the directions of the O/C. Aircraft passengers will activate MCC and may dismount, cross-level, and continue mission if MCC allows and the O/C approves.

(1) In the event of a MILES or O/C adjudicated catastrophic kill, the aircraft will land at the nearest suitable landing area. All crew and passengers are considered KIA and will self-kill their MWLD. All equipment and cargo are considered non-operational. An O/C may direct destroyed aircraft to return to AA. Replacement aircraft must be requisitioned before destroyed aircraft are reconstituted. Repair times IAW applicable maintenance allocation chart.

c. **AIRCRAFT RECOVERY:** Downed aircraft recovery team (DART) and the Pre-Accident Plan may be exercised in the event of MILES SBDA or O/C adjudicated SBDA. The O/C will notify the downed crew if DART is activated. Any maintenance or recovery team is subject to OPFOR engagement and must be equipped with MILES. No actual "wrench turning" will occur for SBDA. However, the DART must consist of the appropriate manuals, forms, tools, equipment and personnel. Aircraft are considered fully mission capable when the appropriate DART has simulated fixing the aircraft or prepared the aircraft for recovery. Aviation O/Cs on the ground will determine when "simulated" damaged aircraft and aircrew members will depart for the Assembly Area (AA) or continue the mission. O/Cs are the final release authority.

d. **ESCAPE AND RECOVERY:** Units must coordinate with the Falcon O/C Team if they wish to train escape and recovery. No crewmember or passenger is permitted to execute escape and recovery without this prior coordination and direct O/C supervision. Self-extraction of aircrew members is specifically prohibited. Aircrew members must have a MWLD and eye protection to conduct E&R.

7-8 AVIATION CONSIDERATIONS FOR NBC (HELICOPTER):

a. **MOPP:** Aircrews will have the requisite NBC equipment and will be in the prescribed MOPP level for both flying and non-flying duties. (No simulation of MOPP levels is authorized)

b. **CHEMICAL EFFECTS:** All helicopters, their crews, and passengers are susceptible to chemical hazards. Each aircraft will have a designated safety pilot who will not wear a mask. The other crewmembers and all passengers will adhere to the prescribed MOPP level.

c. **ASSESSING AIRCREWS AS CASUALTIES:** Casualties will be assessed to pilots and aircrew members when they do any of the following:

(1) Hover or land in a persistent chemical attack area. (25 ft. AGL or below)

(2) Fly through a non-persistent chemical agent attack or its downwind hazard area at 100' AGL or below with all doors and windows open (ALL conditions must be met to become contaminated).

(3) Crews/Pilots are grounded when either a persistent or non-persistent chemical attack lands within their assembly area.

d. Aviation O/Cs will determine whether personnel or equipment become contaminated. Effects of persistent agents will remain IAW the COM instructions issued by DTOC.

e. If, due to physiological, psychological, or environmental effects, a crew cannot adhere to the prescribed MOPP level and conduct operations safely they will remove themselves from the situation.

7-9 AIR TO GROUND ENGAGEMENTS (HELICOPTER):

a. **ENGAGEMENT:** Aircraft engaging ground target will flash their landing lights. SAWE/MILES will determine the outcome of all engagements except AH-64 and OH-58D MPSM rocket engagements.

b. **HELLFIRE:** Personnel operating remote HELLFIRE laser designators will adhere to the safety fan as outlined in FM 3-90.32.

(1) Laser designators must have positive communications with the firing unit on an O/C monitored net.

7-10 AIR-TO-AIR ENGAGEMENTS (HELICOPTER): Air to air maneuvering is prohibited. Air to air maneuvering is defined as changing the heading, altitude or attitude of the aircraft in order to engage an aircraft. Re-orientation of a weapons system, e.g., 30 mm or M60 machine gun, is permitted.

7-11 AIR DELIVERED VOLCANO (HELICOPTER):

a. **GENERAL:** Air delivered VOLCANO minefields have either a 4-hour or 48 hour duration. The allocation for each VOLCANO system is determined by the Division Operation Order. The minimum length of an air delivered VOLCANO minefield is 200 meters (SAWE/MILES II supported).

b. **EQUIPMENT AND OPERATIONAL PLANNING REQUIREMENTS:**

(1) All components of the VOLCANO system must be on hand and operational to emplace a minefield.

(2) With an aviation O/C present and observing, the unit must turn the system on, and fly the center line(s) of the minefield IAW the procedures outlined in FM 20-32.

(3) Flashing the aircraft landing lights will indicate start point and end point of the minefield. The aircraft must call the Aviation O/C at the start and stop point of the minefield.

(4) There is no requirement for the VOLCANO system to actually launch training mines.

(5) Aircraft will rearm in accordance with proper procedures and manuals. If no M89 rounds are available for training, then FARP personnel will provide forms (DA 518) indicating status of ammunition and aircraft will remain at FARP/AA for minimum of 30 minutes.

c. **ASSESSING VOLOCANO MINEFIELD EMPLACEMENT:**

(1) The aircraft will announce to the O/C the start and stop of the minefield.

(2) Fire markers will mark VOLCANO minefields by initiating a hand grenade simulator and a yellow smoke grenade at the start point and end point of the minefield as it is emplaced.

a. Unless pre-marked by the BLUFOR unit, fire markers will mark the minefield with yellow pickets and SCATMINES at each of the corners.

b. The fire markers will also place training mines on all major trails entering the minefield.

d. The unit must report an eight digit grid coordinate for each corner and start/end points of the center line (s) of the minefield to the TF engineer O/C.

7-12 ASET IV:

a. **AIRCRAFT SURVIVABILITY EQUIPMENT:** (ASE) Specifically the APR-39 must be programmed with the training code to

receive accurate threat ADA indications in the cockpit. (Note: Ground Surveillance Radars and Q36/37 Radars will activate the APR-39.)

b. **REFERENCE:** Refer to Chapter 6, Air Defense for additional ASET IV information.

c. **MILES:** SAWE/MILES will determine the outcome of all engagements.

7-13 SAFETY:

a. **REFERENCE:** Aircraft operating at CMTC will do so IAW the CMTC HFCA SOP, Hohenfels Army Airfield SOP, Aviation Procedures Guide (Redline Brief) USAREUR Supplement 1 to AR 95-1 (includes operations using NVGs). Refer to Chapter 11, Safety for additional information.

b. **APPROACHING AIRCRAFT:** Soldiers will not approach parked or hovering aircraft from the rear. Soldiers must gain the attention of the pilots or crew chief before approaching the aircraft.

c. **PYROTECHNICS:** Units will not throw pyrotechnics from an aircraft nor will any unit fire Star clusters, simulated air bursts, simulated air defense weapons systems directly at aircraft.

d. **AIRCRAFT LANDING:** If helicopters are required to land during tactical operations, i.e., to check a kill code, simulate battlefield debris, etc., do so in an area that will not interfere with ground vehicle maneuvering.

e. **AIRCRAFT SEPERATION:** Aircraft will not approach, dust, or land within 100 meters of soldiers or vehicles except on designated PZs.

f. **HOVERING:** Aircraft will not use hovering techniques to intentionally stir up dust or debris when conducting aerial searches for opposing ground forces.

g**. AIR ASSAULT AND AIR MOVEMENT OPERATIONS:** Soldiers being transported and aircrews must be trained in conducting air assault/movement operations. Requests and approval for aircraft “seats out” operations will be IAW Army Regulation 95-1 and USAREUR Supplement to 95-1.

h. **ACCIDENTS OR MISHAPS:** Units are responsible for security and investigation of actual ground or aviation mishaps IAW AR 385-95 and AR 385-40. Units may request assistance from FALCON O/C Team and CMTC. Units must immediately notify the Senior Aviation O/C in the event of mishap. Courtesy copies of accident reports and the logs will be turned into the Falcon Safety O/C.

i. **MISSION PROFILE CHANGES:** The O/C may direct changes to the mission profile, e.g. lights, routes and altitude, in the event of safety related situations. FALCON O/Cs have recall authority over all aircraft conducting operations at CMTC in the event of safety violations.

j. **TACTICAL PRE-ACCIDENT PLAN:** A Tactical Pre-Accident Plan will be developed and rehearsed prior to D+1.

k. **SURVEYS:** Assembly Area (AA) surveys will be conducted within 24 hours of occupation or as per unit SOP whichever is sooner.

l. During real world aerial MEDEVAC operations, UNRTS will be notified by the HAAF tower and Falcon O/Cs. RW aircraft will cease activities and hold their position on the ground or at a hover until completion of the MEDEVAC mission.

7-14 OPFOR AVIATION OPERATIONS (HELICOPTER): RAVENs or OPFOR will provide DTOC an ATO 24 hours prior to the execution of a mission. ATO information is IAW established EXCON ATO Matrix. Missions not on the ATO and submitted inside the 24 hour window will not be approved.

a. **OPFOR AIRCRAFT:** Desert camouflaged VIS-MOD UH-1H helicopters replicate MI-24 HIND-F. The aircraft has a maximum ordnance payload of 250 rounds of 30mm, 128 rockets, and 4 missiles. The payload can be readily reconfigured for various mission profiles.

b. **MISSIONS:** OPFOR aircraft can conduct reconnaissance and security, air assault/movement, and attack missions in support of the OPFOR ground commanders.

c. **MILES:** SAWE/MILES will determine the outcome of all engagements. The VISMOD UH-1 has a MILES sensor array that replicates the armor plating of a MI-24 HIND.

d. **A2C2:** Upon approval of the Commander, Operations Group, OPFOR aircraft may conduct out of sector operations.

e. **AIR ASSAULT AND AIR MOVEMENT MISSIONS:** OPFOR may designate Alternate LZs. OPFOR may change from the Primary to any of the Alternate LZs enroute.

f. **NBC:** Mi-24 HIND-F: aircraft have an NBC overpressure system. Chemical agent vapor hazards do not affect the interior of OPFOR aircraft.

g. **AIRCRAFT RECONSTITUTION:** If a OPFOR Aircraft is killed it will transition from terrain flight altitude, turn on its anti-collision light and positions lights, climb to altitude (normally 2500 feet AGL), proceed to the designated checkpoint or boundary and reset its MILES IAW the number of sorties approved for that mission. The aircraft will wait the required 20 minute ‘rearming’ time before reentering the box. If the

aircraft is conducting an air assault or air movement mission and the troop carrying aircraft is assessed as a MILES kill on ingress or in the vicinity of the LZ, it will remain with that lift but will not be authorized to offload its troops. Once the lift returns to the PZ the aircraft may be reconstituted and used again if authorized in the Combat Instructions. However, the troops and equipment cannot be reinserted on a follow on lift.

7-15 TACAIR:

a**. DESIGNATING AIRCRAFT:** Red and Blue TACAIR are designated prior to each rotation. TACAIR supporting the OPFOR will use NATO tactics and simulate NATO munitions. If notional CAS is authorized by the COG for pre-planned or immediate CAS requests, no more than 2 sorties will be assigned to a BDE for planning. For pre-planned and immediate targets, quality of TACAIR planning will also be taken into account for execution of TACAIR and BDA. Bullseye 07 will recommend type of notional A/C and munitions for COG approval.

b. **COMMAND AND CONTROL:** All aircraft will operate under the control of the BULLSEYE O/C Team and DTOC, who will provide the necessary coordination with HAAF and the DTOC. Aircraft will obtain clearance from the BULLSEYE O/C Team upon entering and departing the maneuver area complex. The Commander, Operations Group, DTOC and the Team Chief, BULLSEYE O/C Team, are the only individuals authorized to direct aircraft to depart the battlefield area.

c. **RESTRICTIONS:** Only one force's TACAIR (i.e., *only* BLUE or *only* RED aircraft) will operate in a given exercise air corridor at any one time. Simultaneous attacks by both BLUE and RED TACAIR in separate air corridors are permitted only when specifically authorized by the BULLSEYE O/C Team.

d. **COORDINATING ALTITUDE:** Coordination altitude is IAW CMTC Aviation/Airspace Procedure Guide.

e. **AIR TO AIR ENGAGEMENTS:** Air-to-air engagements between opposing TACAIR forces are not authorized in CMTC airspace.

f. **SEAD MISSION:** TACAIR may execute Suppression of Enemy Air Defense (SEAD) missions by specifically pre-designating the target description and location to the AFOC and making the appropriate air-to-ground attack.

g. **BLUFOR CONTROL OF AIRCRAFT:** Aircraft operate under the control of the rotational ALO, or qualified ETAC, Airborne Forward Air Controller (AFAC) or Army Aviation Commander. The BULLSEYE O/C Team and DTOC maintain overall control of aircraft operating in the Maneuver area complex.

h. **KEY LEADERS:** The training unit Task Force ALO/ETAC is considered as "Key Leaders" and follows EXROE pertaining to Key Personnel. When an ALO/ETAC is assessed as a casualty for a second time, the ALO/ETAC may not control the CAS mission. ALO/ETAC vehicles assessed as casualties are considered mobility kills. The vehicle may not move, but all radios remain operational.

(1) When the ALO is assessed as a casualty, an Enlisted Tactical Air Controller (ETAC) will become the primary control source. When neither the ALO or ETAC is available and an AFAC or Army Aviation Commander is not in position to assume control, responsibility, in order of preference, will fall to (1) Tactical Air Control Center (TACC) personnel not ETAC qualified, (2) FIST/FSO, or (3) an individual designated by the ground commander. In instances other than ALO control, the ALO still exercises a supervisory role for control/safety of aircraft.

i. **SAFETY:** The ALO, when in a supervisory role, will advise the attacking aircraft only of flight safety considerations. He must have immediate access to an operational radio to abort the mission, if required. The ALO or BULLSEYE O/C will resume control anytime the safety of air or ground elements becomes a factor.

j. **ADDITIONAL INFORMATION:** Additional information for TACAIR is provided in CMTC Air Procedures Guide (APG).

k. **AIR TO GROUND ENGAGEMENTS (FIXED WING):**

(1) BLUE and RED air engagements are evaluated by the BULLSEYE O/C for the appropriate aircraft and ammunition. When the aircraft is equipped with Laser Engagement Simulators (LES).

(2) The BULLSEYE O/C monitors the Tactical Air Control Net (TACN) to determine the target description, location, ammunition, and if standoff munitions are used. The BULLSEYE O/C Team passes this information to the COG and Senior Maneuver O/C, who in turn passes it to the O/C nearest the target location.

(3) O/Cs designate where aircraft are attacking by throwing hand grenade simulators to indicate aircraft ordnance. If standoff munitions are used, the O/Cs will simulate the weapons effect, even if aircraft are not visible

(IR Maverick valid standoff employment range may exceed 7 km). Aircraft release flares and chaff for defensive purposes only. These releases do not replicate munitions.

(4) Prior to the execution of TACAIR (actual or notional), the senior BDE/TF O/C will brief the COG on the combined planning efforts of the rotational unit. In addition, the O/C will give an assessment of the unit's current battle preparations and overall situational awareness (SA) of the battlefield to include: location of friendly and enemy forces, weight of effort, and coordination of fires.

a. During BDE operations, Mustang 07 will pass the planning assessment to the COG.

b. During single task force operations, the senior maneuver TF O/C will pass the planning assessment to the COG.

(5) The BULLSEYE O/C determines the quality of attack for each aircraft type and ammunition used, and assigns a high or low probability of BDA based on factors including visibility, ceiling, and/or threat level. Errors in CAS procedures will always result in a 0% probability rate. Bullseye passes the recommended BDA to the COG or Senior O/C IAW the following tables. The senior O/C then passes this information to the nearest O/C in the target area to assess the BDA.

a. Probability of Kill (PK) or damage factors include: Weather (ceiling and visibility), threat (acquisition, control, and range), target acquisition (camouflage, motion, obstructions, TDA, marking (laser, IR pointer, WP/HE/Illum round)), and aircraft acquisition systems (IR, visual identification, controller talk-on).

(1) High PK is a combination of these factors that allow the pilot to acquire and deliver ordinance on target while minimizing exposure to the threat.

(2) Low PK is a combination of these factors that make it difficult for the pilot to acquire and deliver ordinance on target without exposing the aircraft to the threat.

(6) Bombs and CBUs. Aircraft must make a "wings level" pass over the general area. Attacking aircraft can deliver weapons from high/low angle or level flight. Loft deliveries must be announced prior to pass. Release altitude for ordnance is at or above 500 FT AGL for arming requirements of most ordnance.

a. Pilots must make number of bombs call before attacking on each pass. Otherwise, it is assumed all bombs were dropped on the first pass.

(7) **Forward firing Ordnance (FIXED WING):**

a. Strafe: Aircraft is required to have its nose pointed at the target for a minimum of three seconds and within slant range. Strafing can be made while banking, turning, or from high or low angles. One Hundred rounds is the standard for strafe.

b. Maverick Missiles: The aircraft is required to point its nose at the target for a minimum of three seconds and within slant range. The pilot must make a "lock and launch" or "rifle" call.

(8) Each aircraft is considered a separate pass.

(9) **Aircraft Munitions Replication (FIXED WINGED):**

a. Bombs and maverick missiles: Bombs and maverick missiles are replicated by two ground bursts each pass regardless of number of bombs dropped.

b. Strafe: A strafe will be replicated by one ground burst per pass.

c. Secondary explosions: O/Cs will replicate secondary explosions as required.

l. Notional CAS Procedures. Before the engagement/air window, Bullseye will report to COG threat location, expected location of engagement, type aircraft, and maximum kills. If the engagement location changes, Bullseye will update COG before adjudication. COG will approve adjudication with any additional restrictions and/or comments. Bullseye will call in the approved BDA and other instructions on the O/C net. Bullseye will inform Spielmeister of targets and numbers for adjudication. Bullseye on scene O/C will adjudicate mission via the supporting TAF. Bullseye Spielmeister will update COG with BDA assessed.

m. **GROUND TO AIR ENGAGEMENTS (FIXED WING): See also Chapter 6, Air Defense. OPFOR ADA assets will be credited with a shoot down of notional air under the following conditions:**

(1) OPFOR ADA assets are not suppressed and are in range to kill notional A/C.

(2) Notional A/C fly into artillery due to lack of coordination from TACP/ALO.

(3) If the TACP/TOC target is and OPFOR ADA asset, the above does not apply unless another asset is in range of engaging A/C; however, the OPFOR will be credited with a shoot down if the TACP recommends poor tactics and/or the A/C does not have SEAD or standoff capability.

m. **BATTLE DAMAGE ASSESSMENT:** BULLSEYE O/Cs recommend BDA to the Senior Task Force O/C based on the following table.

CAS BDA TABLE			
Type of A/C	Max Vehicle BDA (2Ship/4 Ship)	High Probability of Damage (Smart Wpns or Gun%/Dumb bomb%)	Low Probability of Damage (Smart Wpns or Gun%/Dumb bomb%)
A-10	4/8	100%/50%	50%/25%
F15	2/4	100%/50%	50%/25%
F16	2/4	100%/50%	50%/25%
OPFOR	2/4	100%/50%	50%/25%

CAS BDA DISTANCE TABLE		
	Kill Radius (m)	**Damage Radius (m)**
Ordnance	**Hard/Soft Target**	**Hard/Soft Target**
MK-82 (250 kg)	10 / 50	20 / 100
MK-84 (1000 kg)	20 / 100	40 / 150
AGM-65	10 / 40	20 / 75
CBU-87/89	50 / 50	60 / 60
30 mm	5 / 10	10 / 15
20 mm	0 / 10	5 / 15